

REMARKS

This responds to the Office Action mailed on January 7, 2009.

Claims 1, 7, 9-12, 14, 18, and 26 are amended, claims 2 and 20 are canceled without comment, prejudice or disclaimer, and new claim 30 is added; as a result, claims 1, 3, 7-19, 21, and 26-30 are now pending in this application.

Rejection of the Claims under § 101

Claims 1-3 and 7-13 were rejected under 35 U.S.C. § 101 as not falling within one of the four statutory categories of patentable subject matter. With this response, claim 1 is amended to include a variable length decoder, motion compensation-based interpolation logic, and select logic, and claim 7 is amended to include interpolation logic, motion estimation logic, and motion compensation-based interpolation logic, which elements are depicted at least in Figure 2 and described at least at page 4, paragraphs [0013] and sequence. With this response, the basis for the rejection is removed, and Applicant respectfully requests reconsideration and withdrawal of the rejection.

Rejection of the Claims under § 102

Claims 1 and 18-19 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,269,484 ("Simsic"). With this response, claims 1 and 18 are amended to include limitations of claims 2 and 20, which the Office acknowledges are not disclosed by Simsic. (See Office Action, page 4, paragraph 12). Accordingly, with this amendment, the rejection of claims 1, 18 and 19 under 35 U.S.C. § 102(b) over Simsic is overcome and should be withdrawn.

Rejection of the Claims under § 103

Claims 2, 3, 7-17, 20-21, and 26-29 were rejected under 35 U.S.C. § 103(a) over various combinations of references. Applicant addresses each of the rejections below.

Claims 2 and 20 (now 1 and 18)

Claims 2 and 20 were rejected under 35 U.S.C. § 103(a) as being obvious over Simsic in view of Johnson et al. "Frequency Scalable Video Coding Using MDCT," IEEE, pages V-477-V480, 1994 ("Johnson"). With this response, claims 2 and 20 are canceled, and the limitations of claims 2 and 20 are amended into independent claims 1 and 18, respectively. As discussed above, the Office acknowledges that Simsic does not disclose or suggest all of the elements of claims 2 and 20, which have now been incorporated into amended independent claims 1 and 18.

The Office asserts that, while Simsic does not teach "squaring the values of a number of transform coefficients" and "summing the squared values to generate the prediction error energy for the block," Johnson discloses the missing elements of Simsic. However, Johnson discloses frequency scalable video coding (see Johnson, Title, Abstract, and Introduction), and not video decoding, as recited in independent claims 1 and 18.

In particular, Johnson discloses a motion vector having a prediction signal with a minimum transform coefficient sum squared prediction error for use in a **video encoder**, specifically a standard hybrid, block based motion compensated transform **coder**. (See Johnson, pages 477-478, Section 3, and figures 1 and 2. Though Johnson appears to describe squaring and summing transform coefficients to produce a prediction error, Johnson discloses such an operation in a video encoding context, and not in a video decoding context. Johnson does not disclose or suggest that such an operation would work to decode the video signal. Accordingly, Johnson fails to disclose or suggest "generating the prediction error energy of the block [decoded from a received compressed video stream] using the decoder/deinterlacer, wherein generating the prediction error energy of the block comprises" "squaring the values of a number of transform coefficients in the block to generate squared values" and "summing the squared values to generate the prediction error energy for the block," as recited in independent claims 1 and 18.

Thus, the asserted combination of Simsic and Johnson does not disclose or suggest all of the elements of independent claims 1 and 18. Accordingly, Applicant submits that claims 1 and 18 are allowable over Simsic and Johnson. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 3, 14-16, and 21

Claims 3, 14-16, and 21 were rejected under 35 U.S.C. § 103(a) as being obvious over Simsic et al. (U.S. 6,269,484 B1) in view of Zeng (U.S. 7,203,234 B1). As discussed above, Simsic does not disclose or suggest all of the elements of amended claims 1 and 18, from which claims 3 and 21 depend. Zeng fails to overcome its deficiencies.

In particular, Zeng is directed to a method of directional filtering for post-processing compressed video. (Zeng, Title, Abstract, and col. 1, lines 7-10) However, Zeng does not appear to disclose “generating the prediction error energy of the block [decoded from a received compressed video stream] using the decoder/deinterlacer, wherein generating the prediction error energy of the block comprises” “squaring the values of a number of transform coefficients in the block to generate squared values” and “summing the squared values to generate the prediction error energy for the block,” as recited in independent claims 1 and 18.

Accordingly, the asserted combination of Simsic and Zeng does not disclose or suggest at least one element of claims 3 and 21, at least by virtue of their dependencies from independent claims 1 and 18. Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejections.

Turning to claims 14-16, the Office acknowledges that Simsic fails to disclose “a de-quantization scale factor compared to a threshold.” (See Office Action, page 5, paragraph 17) The Office asserts that Zeng discloses this feature. Zeng discloses a pre-determined quantization parameter threshold, which is used to determine whether or not to filter a particular block. (Zeng, col. 3, lines 48-65) However, Zeng does not disclose or suggest “the de-quantization threshold varies based on a type of the compressed video stream,” as recited in amended independent claim 14. This feature is described in the application at least at page 13, paragraph [0037].

Therefore, the asserted combination of Simsic and Zeng does not disclose or suggest at least one element of claim 14, and of claims 15-16, at least by virtue of their dependency from independent claim 14. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 14-16.

Claims 7-9 and 12

Claims 7-9 and 12 were rejected under 35 U.S.C. § 103(a) as being obvious over Simsic et al. (U.S. 6,269,484 B1) in view of Zeng (U.S. 7,203,234 B1) further in view of Beattie (U.S. 2001/0002205 A1). The Office acknowledges that Simsic does not disclose all of the elements of independent claim 7. (Office Action, page 6, paragraph 21). The Office asserts that Zeng discloses a de-quantization scale factor compared to a threshold (similar to the rejection of claim 14 discussed above). However, with this response, claim 7 is amended to recite "wherein the energy threshold varies according to a type of video associated with the block." This feature is described in the application at least at page 14, paragraph [0038]. Simsic and Zeng do not disclose or suggest this feature.

Beattie fails to overcome their deficiencies. In particular, Beattie is concerned with encoding of digital signals. (Beattie, Title, Abstract, and page 1, paragraph [0001]). Like Johnson, Beattie is concerned with **video encoding**, and **not decoding**. Further, Beattie does not appear to disclose or suggest "wherein the energy threshold varies according to a type of video associated with the block," as recited in independent claim 7.

Accordingly, the asserted combination of Simsic, Zeng, and Beattie does not disclose or suggest at least one element of independent claim 7 or of claims 8-9 and 12, at least by virtue of their dependency from claim 7. Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejections of claims 7-9 and 12 over the combination of Simsic, Zeng, and Beattie.

Claims 10-11

Claims 10-11 were rejected under 35 U.S.C. § 103(a) as being obvious over Simsic et al. (U.S. 6,269,484 B1) in view of Zeng (U.S. 7,203,234 B1) in view of Beattie (U.S. 2001/0002205 A1), further in view of Barrau (U.S. 6,968,007 B2). As discussed above, the asserted combination of Simsic, Zeng, and Beattie does not disclose or suggest all of the elements of independent claim 7, from which claims 10-12 depend.

Barrau fails to overcome their deficiencies. Instead, Barrau discloses a system that purports to be scalable based on selective coupling of various components, such as reconstruction and motion compensation elements, which are selectively coupled through

switches. (Barrau, Abstract, and Figure 1) While Barrau discloses comparing a predicted value to an energy threshold, Barrau discloses determining the threshold to take into account available processing resources (Barrau, col. 6, lines 30-38), and not based on the type of video, as recited in independent claim 7. In particular, Barrau does not appear to disclose or suggest “wherein the energy threshold varies according to a type of video associated with the block,” as recited in independent claim 7.

Accordingly, the asserted combination of Simsic, Zeng, Beattie, and Barrau does not disclose or suggest at least one element of claims 10-11, at least by virtue of their dependency from independent claim 7. Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 10-11.

Claim 28

Claim 28 was rejected under 35 U.S.C. § 103(a) as being obvious over Simsic et al. (U.S. 6,269,484 B1) in view of Beattie (U.S. 2001/0002205 A1), further in view of Zeng (U.S. 7,203,234 B1). Claim 28 depends from independent claim 26. With this response, independent claim 26 is amended to recite “wherein the energy threshold varies based on a type of video associated with the block.” As discussed above with respect to claim 7, the asserted combination of Simsic, Beattie and Zeng fail to disclose or suggest this feature. Accordingly, the asserted combination also fails to disclose this feature with respect to independent claim 26, and claim 28, at least by virtue of its dependency from independent claim 26. Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection.

Claims 26-27

Claims 26-27 were rejected under 35 U.S.C. § 103(a) as being obvious over Simsic et al. (U.S. 6,269,484 B1) in view of Beattie (U.S. 2001/0002205 A1). Independent claim 26, as amended, recites “wherein the energy threshold varies based on a type of video associated with the block.” As discussed above, Simsic and Beattie fail to disclose this feature. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 26-27.

Claim 13

Claim 13 was rejected under 35 U.S.C. § 103(a) as being obvious over Simsic et al. (U.S. 6,269,484 B1) in view of Zeng (U.S. 7,203,234 B1) in view of Beattie (U.S. 2001/0002205 A1) further in view of Johnson et al. ("Frequency Scalable Video Coding Using MDCT" IEEE, pages V-477-V480, 1994). As discussed above with respect to claim 7, the combination of Simsic and Zeng do not disclose or suggest "wherein the energy threshold varies according to a type of video associated with the block," as recited in independent claim 7, from which claim 13 depends. Johnson does not disclose or suggest "an energy threshold," and therefore fails to overcome their deficiencies. Accordingly, the asserted combination of Simsic, Zeng, and Johnson does not disclose all of the elements of claim 13, at least by virtue of its dependency from independent claim 7.

Claim 29

Claim 29 was rejected under 35 U.S.C. § 103(a) as being obvious over Simsic et al. (U.S. 6,269,484 B1) in view of Beattie (U.S. 2001/0002205 A1) further in view of Johnson et al. ("Frequency Scalable Video Coding Using MDCT" IEEE, pages V-477-V480, 1994). Claim 29 depends from independent claim 26. As discussed above, Simsic and Beattie do not disclose or suggest "wherein the energy threshold varies based on a type of video associated with the block," as recited in claim 26. Johnson does not disclose or suggest "an energy threshold," and therefore fails to overcome their deficiencies. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

Claims 14-17

Claims 14-17 were rejected under 35 U.S.C. § 103(a) as being obvious over Simsic et al. (U.S. 6,269,484 B1) in view of Zeng (U.S. 7,203,234 B1) and further in view of Johnson et al. ("Frequency Scalable Video Coding Using MDCT" IEEE, pages V-477-V480, 1994). As discussed above, Simsic and Zeng do not disclose or suggest all of the elements of independent claim 14. In particular, the combination of Simsic and Zeng fails to disclose "wherein the de-quantization threshold varies based on a type of the compressed video stream," as recited in independent claim 14. Johnson does not disclose or suggest "a de-quantization threshold," and

therefore fails to overcome their deficiencies. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

New Claim

With this response, new dependent claim 30 is added to depend from dependent claim 3, which in turn depends from independent claim 1. Since two dependent claims are canceled and one dependent claim is added, Applicant submits that no new claim fees are required.

Dependent claim 30 recites “wherein the de-quantization threshold varies based on a type of video associated with the block.” Applicant submits that this limitation finds support in the present application, at least at page 13, paragraph [0037]. Accordingly, no new matter is added. Further, claim 30 is allowable over Simsic, Zeng, Beattie, Barrau and Johnson, at least by virtue of its dependency from independent claim 1. Further, none of the cited references, alone or in combination, appear to disclose or suggest the feature recited in claim 30. Applicant respectfully requests consideration and allowance of new claim 30.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (512) 492-6407 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

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By

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